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(54) **PRODUCTION OF HOT FORGED  
NON-HEATTREATED STEEL HAVING HIGH  
STRENGTH AND HIGH TOUGHNESS**

(57) Abstract:

PURPOSE: To improve yield strength by specifying the chemical composition and heat treatment conditions of a hot forged non-heat-treated steel, respectively.

CONSTITUTION: A steel which has a composition containing, by weight, 0.1-0.6% C, 0.05-3.0% Si,  $\leq 3.0\%$

Mn, 0.001-0.3% S, 0.03-0.3% V, 0.005-0.06% N, one or two kinds among  $\leq 3.0\%$  Cr,  $\leq 3.0\%$  Ni,  $\leq 1.0\%$  Mo, and  $\leq 2.0\%$  Cu, and one or two kinds among 0.001-0.05% Ti, 0.005-0.1% Nb, and 0.005-0.1% Al is hot-forged and is cooled slowly from an arbitrary temp. not higher than 500°C down to room temp. in the course of cooling. By this method, the hot forged non-heat-treated steel having high strength and high toughness can be obtained.

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